

CLAIMS

1. An information record medium on which there are recorded:
video information to indicate a main-video; and
5 sub-video information set having (i) sub-video information to indicate a sub-video displayable at least partially over the main-video and (ii) header information appended to the sub-video information and including: button information for defining a button video part which functions as a button in the sub-video; and
10 highlight information for defining how to perform highlight display control with respect to the button video part.
2. The information record medium according to claim 1, wherein the button information defines an opaque video part in a
15 rectangular area placed in the sub-video information, as the button video part.
3. The information record medium according to claim 1, on which there is further recorded sub-video control information
20 including sub-frame range information for specifying at least a partial area of the sub-video as a sub-frame.
4. The information record medium according to claim 1, wherein the main-video information and the sub-video information set
25 are divided into predetermined packet units and multiplexed, and further streamed respectively into a video stream composed of the

divided main-video information, and a sub-picture stream composed of the divided sub-video information set.

5. The information record medium according to claim 1, on
5 which there is further recorded sub-video control information including: sub-frame range information for specifying at least a partial area of the sub-video as a sub-frame; button information for defining the sub-frame displayed over the main-video, as a button video part which functions as a button; and highlight information
10 for defining how to perform highlight display control with respect to the sub-frame.

6. An information record medium on which there are recorded:
video information to indicate a main-video;
15 sub-video information set having sub-video information to indicate a sub-video displayable at least partially over the main-video and header information appended to the sub-video information; and
sub-video control information including: (i) sub-frame range
20 information for specifying at least a partial area of the sub-video as a sub-frame; (ii) button information for defining the sub-frame displayed over the main-video, as a button video part which functions as a button; and (iii) highlight information for defining how to perform highlight display control with respect to the
25 sub-frame.

7. The information record medium according to claim 6, wherein the main-video information, the sub-video information set, and the sub-video control information are divided into predetermined packet units and multiplexed, and further streamed respectively into a video stream composed of the divided main-video information, a sub-picture stream composed of the divided sub-video information set, and a control information stream composed of the divided sub-video control information.

10 8. The information record medium according to claim 1, wherein the button information further defines a button command to be executed if the button is operated.

9. The information record medium according to claim 6, wherein the button information further defines a button command to be executed if the button is operated.

10. The information record medium according to claim 1, wherein the highlight information defines which display aspect is used for highlight-display out of a predetermined types of display aspects set in advance, in accordance with in which button state a button displayed on the main-video is out of a predetermined types of button states set in advance, as how to perform the highlight display control.

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11. The information record medium according to claim 6, wherein

the highlight information defines which display aspect is used for highlight-display out of a predetermined types of display aspects set in advance, in accordance with in which button state a button displayed on the main-video is out of a predetermined types of button states set in advance, as how to perform the highlight display control.

12. An information record apparatus comprising:

a first record device for recording video information to indicate a main-video; and

a second record device for recording sub-video information set having (i) sub-video information to indicate a sub-video displayable at least partially over the main-video and (ii) header information appended to the sub-video information and including: button information for defining a button video part which functions as a button in the sub-video; and highlight information for defining how to perform highlight display control with respect to the button video part.

13. An information record apparatus comprising:

a first record device for recording video information to indicate a main-video;

a second record device for recording sub-video information set having sub-video information to indicate a sub-video displayable at least partially over the main-video and header information appended to the sub-video information; and

a third record device for recording sub-video control information including: (i) sub-frame range information for specifying at least a partial area of the sub-video as a sub-frame; (ii) button information for defining the sub-frame displayed over the main-video, as a button video part which functions as a button; and
5 (iii) highlight information for defining how to perform highlight display control with respect to the sub-frame.

14. An information record method comprising:

10 a first record process of recording video information to indicate a main-video; and

a second record process of recording sub-video information set having (i) sub-video information to indicate a sub-video displayable at least partially over the main-video and (ii) header
15 information appended to the sub-video information and including: button information for defining a button video part which functions as a button in the sub-video; and highlight information for defining how to perform highlight display control with respect to the button video part.

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15. An information record method comprising:

a first record process of recording video information to indicate a main-video;

a second record process of recording sub-video information
25 set having sub-video information to indicate a sub-video displayable at least partially over the main-video and header information

appended to the sub-video information; and

a third record process of recording sub-video control information including: (i) sub-frame range information for specifying at least a partial area of the sub-video as a sub-frame; (ii)
5 button information for defining the sub-frame displayed over the main-video, as a button video part which functions as a button; and (iii) highlight information for defining how to perform highlight display control with respect to the sub-frame.

10 16. An information reproduction apparatus for reproducing information on the information record medium according to claim 1, said information reproduction apparatus comprising:

a reproduction device for reproducing the video information and the sub-video information set;

15 a display output device capable of displaying and outputting the sub-video information in the reproduced sub-video information set, over the reproduced video information; and

a control device for controlling the display output device to highlight-display the button video part, on the basis of the button
20 information and the highlight information included in the header information in the reproduced sub-video information set.

17. An information reproduction apparatus for reproducing information on the information record medium according to claim 6,
25 said information reproduction apparatus comprising:

a reproduction device for reproducing the video information,

the sub-video information set, and the sub-video control information;

a display output device capable of displaying and outputting the sub-video information in the reproduced sub-video information set, over the reproduced video information; and

a control device for controlling the display output device to highlight-display the sub-frame as the button video part, on the basis of the button information and the highlight information included in the reproduced sub-video control information.

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18. An information reproduction method of reproducing information on the information record medium according to claim 1, said information reproduction method comprising:

a reproduction process of reproducing the video information and the sub-video information set; and

a control process of controlling a display output device capable of displaying and outputting the sub-video information in the reproduced sub-video information set, over the reproduced video information, to highlight-display the button video part, on the basis of the button information and the highlight information included in the header information in the reproduced sub-video information set.

19. An information reproduction method of reproducing information on the information record medium according to claim 6, said information reproducing method comprising:

a reproduction process of reproducing the video information,

the sub-video information set, and the sub-video control information; and

5 a control process of controlling a display output device capable of displaying and outputting the sub-video information in the reproduced sub-video information set, over the reproduced video information, to highlight-display the sub-frame as the button video part, on the basis of the button information and the highlight information included in the reproduced sub-video control information.

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20. An information record reproduction apparatus comprising:

a first record device for recording video information to indicate a main-video;

15 a second record device for recording sub-video information set having (i) sub-video information to indicate a sub-video displayable at least partially over the main-video and (ii) header information appended to the sub-video information and including: button information for defining a button video part which functions as a button in the sub-video; and highlight information for defining how
20 to perform highlight display control with respect to the button video part;

a reproduction device for reproducing the video information and the sub-video information set;

25 a display output device capable of displaying and outputting the sub-video information in the reproduced sub-video information set, over the reproduced video information; and

a control device for controlling the display output device to highlight-display the button video part, on the basis of the button information and the highlight information included in the header information in the reproduced sub-video information set.

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21. An information record reproduction apparatus comprising:

a first record device for recording video information to indicate a main-video;

a second record device for recording sub-video information set
10 having sub-video information to indicate a sub-video displayable at least partially over the main-video and header information appended to the sub-video information;

a third record device for recording sub-video control information including: (i) sub-frame range information for
15 specifying at least a partial area of the sub-video as a sub-frame; (ii) button information for defining the sub-frame displayed over the main-video, as a button video part which functions as a button; and (iii) highlight information for defining how to perform highlight display control with respect to the sub-frame;

20 a reproduction device for reproducing the video information, the sub-video information set, and the sub-video control information;

a display output device capable of displaying and outputting the sub-video information in the reproduced sub-video information
25 set, over the reproduced video information; and

a control device for controlling the display output device to

highlight-display the sub-frame as the button video part, on the basis of the button information and the highlight information included in the reproduced sub-video control information.

5 22. An information record reproduction method comprising:

 a first record process of recording video information to indicate a main-video;

 a second record process of recording sub-video information set having (i) sub-video information to indicate a sub-video
10 displayable at least partially over the main-video and (ii) header information appended to the sub-video information and including:
 button information for defining a button video part which functions as a button in the sub-video; and highlight information for defining how to perform highlight display control with respect to the button
15 video part;

 a reproduction process of reproducing the video information and the sub-video information set; and

 a control process of controlling a display output device capable of displaying and outputting the sub-video information in
20 the reproduced sub-video information set, over the reproduced video information, to highlight-display the button video part, on the basis of the button information and the highlight information included in the header information in the reproduced sub-video information set.

25 23. An information record reproduction method comprising:

 a first record process of recording video information to

indicate a main-video;

a second record process of recording sub-video information set having sub-video information to indicate a sub-video displayable at least partially over the main-video and header information
5 appended to the sub-video information;

a third record process of recording sub-video control information including: (i) sub-frame range information for specifying at least a partial area of the sub-video as a sub-frame; (ii) button information for defining the sub-frame displayed over the
10 main-video, as a button video part which functions as a button; and (iii) highlight information for defining how to perform highlight display control with respect to the sub-frame;

a reproduction process of reproducing the video information, the sub-video information set, and the sub-video control
15 information; and

a control process of controlling a display output device capable of displaying and outputting the sub-video information in the reproduced sub-video information set, over the reproduced video information, to highlight-display the sub-frame as the button video
20 part, on the basis of the button information and the highlight information included in the reproduced sub-video control information.

24. A computer program for a record control to control a
25 computer disposed at the information record apparatus according to claim 12, said computer program making the computer function as

at least a part of the first record device, the second record device and the third record device.

25. A computer program for a record control to control a
5 computer disposed at the information record apparatus according to claim 13, said computer program making the computer function as at least a part of the first record device, the second record device and the third record device.

10 26. A computer program for a reproduction control to control a computer disposed at the information reproduction apparatus according to claim 16, said computer program making the computer function as at least a part of the reproduction device, the display output device and the control device.

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27. A computer program for a reproduction control to control a computer disposed at the information reproduction apparatus according to claim 17, said computer program making the computer function as at least a part of the reproduction device, the display
20 output device and the control device.

28. A computer program for a record reproduction control to control a computer disposed at the information record reproduction apparatus according to claim 20, said computer program making the
25 computer function as at least a part of the first record device, the second record device, the third record device, the reproduction

device, the display output device and the control device.

29. A computer program for a record reproduction control to control a computer disposed at the information record reproduction apparatus according to claim 21, said computer program making the computer function as at least a part of the first record device, the second record device, the third record device, the reproduction device, the display output device and the control device.

30. A data structure including a control signal, said structure having:

video information to indicate a main-video; and

sub-video information set having (i) sub-video information to indicate a sub-video displayable at least partially over the main-video and (ii) header information appended to the sub-video information and including: button information for defining a button video part which functions as a button in the sub-video; and highlight information for defining how to perform highlight display control with respect to the button video part.

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31. A data structure including a control signal, said structure having:

video information to indicate a main-video;

sub-video information set having sub-video information to indicate a sub-video displayable at least partially over the main-video and header information appended to the sub-video

information; and

sub-video control information including: (i) sub-frame range information for specifying at least a partial area of the sub-video as a sub-frame; (ii) button information for defining the sub-frame
5 displayed over the main-video, as a button video part which functions as a button; and (iii) highlight information for defining how to perform highlight display control with respect to the sub-frame.